Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-35 (Cancelled).

36. (Currently Amended) A ~~nanoengineered light emitting diode~~ structure, comprising:

a crystalline semiconductor nanowhisker of a first conductivity type; and

an enclosure comprising a bulk semiconductor region of a second conductivity type opposite to the first conductivity type enclosing and in contact with said nanowhisker along at least part of its length;

wherein a combination of the nanowhisker and the bulk semiconductor region forms a pn junction ~~of the light emitting diode~~.

37. (Previously Presented) The structure of claim 36, wherein the nanowhisker is intrinsically first conductivity type.

38. (Cancelled)

39. (Previously Presented) The structure of claim 36, wherein:

the nanowhisker comprises a one-dimensional nanoelement of a first crystalline III-V semiconductor material having a first bandgap;

the enclosure comprises at least one second semiconductor bulk material having a second bandgap different from the first band gap; and

the bandgaps of the nanoelement and the enclosure are such that it is energetically favorable for charge carriers to remain in said nanoelement.

40. (Previously Presented) The structure of claim 36, wherein said enclosure comprises a semiconductor material deposited on the sides of said nanoelement.

41. (Previously Presented) A method of forming a pn junction in a structure comprising a one-dimensional nanoelement, the method comprising:

forming a crystalline semiconductor one dimensional nanoelement comprising a nanowhisker doped with a first conductivity type dopant upstanding from a substrate; and

forming an enclosure comprising a bulk semiconductor region of a second conductivity type opposite to the first conductivity type enclosing and in contact with said nanowhisker along at least part of its length;

wherein a combination of the nanowhisker and the bulk semiconductor region forms a pn junction.

42. (Cancelled)

43. (Cancelled)

44. (Previously Presented) The method of claim 41, wherein:

the nanowhisker comprises a first crystalline III-V semiconductor material having a first bandgap;

the enclosure comprises at least one second semiconductor bulk material having a second bandgap different from the first band gap; and

the bandgaps of the nanoelement and the enclosure are such that it is energetically favorable for charge carriers to remain in said nanoelement.

45. (Previously Presented) The method of claim 41, wherein the step of forming said enclosure comprises growing a semiconductor material on sides of said nanoelement using bulk material growth conditions.

46. (Cancelled)

47. (Previously Presented) The structure of claim 36, wherein the nanowhisker is doped with a first conductivity type dopant.

48. (Previously Presented) The method of claim 41, wherein the nanowhisker is intrinsically first conductivity type.